



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE

United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450

Alexandria, Virginia 22313-1450

www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/825,583

04/15/2004

Joachim Schmidt

2133.034/USU

8182

Charles N. J. Ruggiero, Esq.
Ohlandt, Greeley, Ruggiero & Perle, LLP
10th Floor
One Landmark Square
Stamford, CT 06901-2682

7590

05/15/2009

EXAMINER

LAFORGLA, CHRISTIAN A

ART UNIT

PAPER NUMBER

2439

MAIL DATE

DELIVERY MODE

05/15/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/825,583

Applicant(s)

SCHMIDT, JOACHIM

Examiner

Christian LaForgia

Art Unit

2439

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 and 23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 and 23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/S508)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. The amendment of 26 January 2009 has noted and made of record.
2. Claims 1-21 and 23 have been presented for examination.
3. Claim 22 has been cancelled as per Applicant's amendment.

Response to Arguments

4. Applicant's arguments filed 26 January 2009 have been fully considered but they are not persuasive.
5. In response to applicant's argument that the prior art is not used in building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant, a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. The prior art has shown that forward error correction is used in a network environment. The Applicant has not pointed out how the invention of the instant application is structurally different to distinguish from known prior art techniques of using forward error correction in network environments.
6. The applicant further argues that the prior art does not teach the security-relevant data of the respective one packet is transmitted in a separate packet. The examiner disagrees, and reminds the applicant that prior art is relevant for all it contains, including non-preferred and alternative embodiments. See MPEP § 2123; see also *In re Heck*, 699 F.2d 1331, 1332-33, 216 USPQ 1038, 1039 (Fed. Cir. 1983) (quoting *In re Lemelson*, 397 F.2d 1006, 1009, 158 USPQ 275, 277 (CCPA 1968)). The applicant appears to refer to paragraph 0016 describing one

embodiment where the FEC bits are concatenated to the selected packet. The Examiner has cited another embodiment, discussed for example in paragraph 0017, where the FEC information is transmitted in a separate packet. Therefore, the prior art does teach the security-relevant data of the respective one packet is transmitted in a separate packet and the rejection is maintained.

7. Applicant's arguments with respect to the new limitations added to claims 1 and 10 have been considered but are moot in view of the grounds of rejection set forth below.

Claim Rejections - 35 USC § 103

8. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

9. Claim 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0053454 A1 to Katsavounidis et al., hereinafter Katsavounidis.

10. As per claim 1, Katsavounidis teaches a process for the packet-oriented transmission of data under application of at least one transmission system with a parallel and/or serial network and/or bus system with at least one user connected to it, the process, comprising:

transmitting the security-relevant data (paragraphs 0017, 0035, i.e. transmission of video information comprising user data identifier codes) and redundant information, respectively, based solely on all the data of a respective one packet (paragraphs 0016-0017, i.e. using forward error correction; one of ordinary skill in the art would recognize that forward error correction is a technique of error control for data transmission, whereby the sender adds redundant data to its messages);

wherein the security-relevant data is transmitted in at least one packet and each of the respective redundant information based solely on all the security-relevant data of the respective

one packet is transmitted in a separate packet (paragraphs 0017, 0018, i.e. transmitting the forward error correction bits in a separate packet);

wherein the security-relevant data of each packet has security-relevant data comprising user data and check data (paragraphs 0017, 0035, 0249, i.e. user data identifier codes and CRC);

wherein communication participants verify the proper function of other participants via checking transmission paths over signal chains by exchanging relevant check block data (paragraphs 0158-0159, i.e. checking transmission related parameters such as channel noise feedback).

11. Katsavounidis does not teach wherein the transmission system is configured for use in a field selected from the group consisting of building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant.

12. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the transmission system in one of the fields selected from building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant, since Katsavounidis states at paragraph 0016 that implementing the forward error correction disclosed would enhance error resiliency, especially when applied to important real-time data.

13. Regarding claim 2, Katsavounidis teaches that the redundant information is encoded (Figure 1B [block 106B], paragraphs 0037, 0040).

14. Regarding claim 3, Katsavounidis teaches that the redundant information is a check sum (CRC) calculated over the data (paragraphs 0016-0017, i.e. using forward error correction; one

of ordinary skill in the art would recognize that forward error correction includes the use of a checksum).

15. Regarding claim 4, Katsavounidis teaches that the security-relevant data is selected from the group consisting of user data (paragraph 0017, user data identifier codes), check data, and control.

16. Regarding claim 5, Katsavounidis teaches transmitting several packets within a predefined (superset) frame structure (Abstract, paragraph 0017-19, i.e. plurality of frame packets).

17. With regards to claim 6, Katsavounidis teaches wherein the packets within a predefined (superset) frame structure include the security-relevant data and the redundant information that are allocated to each other (paragraph 0017-19).

18. Concerning claim 7, Katsavounidis teaches wherein the packets with the security-relevant data and the redundant information that are allocated to each other are transmitted in a parallel or serial way (Figure 1A [element 120], paragraph 0037, i.e. communication networks can communicate both in parallel and serially).

19. Concerning claim 8, Katsavounidis teaches wherein the packets with the security-relevant data and the redundant information that are allocated to each other are transmitted in strings or

separately (paragraphs 0017, 0018, i.e. transmitting the forward error correction bits in a separate packet).

20. Regarding claim 9, Katsavounidis teaches wherein the packets include an addressing block and/or an identification code for their logical allocation (paragraph 0016, i.e. packet header information includes address information).

21. As per claims 10, Katsavounidis teaches a device for a transmission system with at least one parallel and/or serial network and/or bus system, for the packet-oriented transmission of security-relevant data comprising:

means, arranged on the side of the sender, for the packet-oriented embedding of the security-relevant data into at least one packet (paragraphs 0017, 0035, i.e. transmission of video information comprising user data identifier codes) and for the packet-oriented embedding of each allocated redundant information respectively based solely on all the security relevant data of a respective one packet into a separate packet (paragraphs 0017, 0018, i.e. transmitting the forward error correction bits in a separate packet) ;

wherein the security-relevant data of each packet has security-relevant data comprising user data and check data (paragraphs 0017, 0035, 0249, i.e. user data identifier codes and CRC);

wherein communication participants verify the proper function of other participants via checking transmission paths over signal chains by exchanging relevant check block data (paragraphs 0158-0159, i.e. checking transmission related parameters such as channel noise feedback).

22. Katsavounidis does not teach wherein the transmission system is configured for use in a field selected from the group consisting of building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant.

23. It would have been obvious to one of ordinary skill in the art at the time the invention was made to implement the transmission system in one of the fields selected from building control technology, process industry, manufacturing industry, passenger transportation, and operation of an automation plant, since Katsavounidis states at paragraph 0016 that implementing the forward error correction disclosed would enhance error resiliency, especially when applied to important real-time data.

24. Regarding claim 11, Katsavounidis teaches an encoding device for the encoding of the redundant information (Figure 1B [block 106B], paragraphs 0037, 0040).

25. Regarding claim 12, Katsavounidis teaches wherein the means for embedding are allocated means for the generation of the redundant information with the same number of bits (n) as the security-relevant data to be transmitted (paragraphs 0016-0017, i.e. using forward error correction).

26. Regarding claim 13, Katsavounidis teaches wherein the means for the generation and/or embedding are designed such that any possible combination of the security-oriented data of a packet unambiguously results in exactly one of the possible combinations within the packet

having the respective allocated redundant information (paragraphs 0017, 0018, i.e. forward error correction).

27. Regarding claim 14, Katsavounidis teaches means arranged on the side of the receiver for the verification of an error-free data transmission based solely on all the security-relevant data embedded in at least one packet and the allocated redundant information, wherein each redundant information based solely on all the security relevant data of a respective on packet is embedded in a separate packet (paragraphs 0020, 0021, 0037, 0038, i.e. decoding the received data).

28. With regards to claim 15, Katsavounidis teaches wherein the means for the verification are allocated means for reading out and allocating data and allocated redundant information received in different packets (paragraphs 0020, 0021, 0037, 0038).

29. Regarding claim 16, Katsavounidis teaches wherein several packets with the security-relevant data and/or the allocated redundant information are capable of being transmitted within a predefined (superset) frame structure (Abstract, paragraph 0017-19, i.e. plurality of frame packets).

30. Regarding claim 17, Katsavounidis teaches means for the packet-oriented embedding and readout of addressing blocks and/or identification codes for the logical allocation of individual

packets and/or their contents to each other (paragraph 0016, i.e. packet header information includes address information).

31. Regarding claim 18, Katsavounidis teaches means are allocated to slave devices and/or a master device (paragraph 0038).

32. As per claim 19, Katsavounidis teaches a transmission system comprising:
at least one parallel and/or serial network and/or bus system (Figure 1A [element 120], paragraph 0037); and
at least one device according to claim 10 (see rejection of claim 10 above).

33. Regarding claim 20, Katsavounidis teaches wherein the network and/or bus system is at least one ring-, line-, star- and/or tree-shaped network and/or bus structure (Figure 1A [element 120], paragraph 0037).

34. Regarding claim 21, Katsavounidis teaches wherein the network and/or bus system is at least one selected from the group consisting of Interbus, one Ethernet, one Profibus, and one CAN (paragraph 0037).

35. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Katsavounidis in view of U.S. Patent No. 2003/0200323 A1 to Dold et al., hereinafter Dold.

36. Regarding claim 23, Katsavounidis does not teach wherein the at least one parallel and/or serial network and/or bus system comprises an Interbus system.
37. Dold teaches that Interbus is interchangeable with bus protocols such as CAN, Profibus, Ethernet, ASI, DeviceNet or CANopen (paragraph 0013, claim 2).
38. It would have been obvious to one of ordinary skill in the art at the time the invention was made to interchange Interbus with one of the communication protocols discussed in Katsavounidis, since one of ordinary skill in the art would recognize that switching out the communication protocol would yield predictable results, especially since the prior art shows that they are interchangeable. See *KSR International Co. v. Teleflex Inc.*, 82 USPQ2d 1385, 1395 (2007).

Conclusion

39. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).
40. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

41. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christian LaForgia whose telephone number is (571)272-3792.

The examiner can normally be reached on Monday thru Thursday 7-5.

42. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kambiz Zand can be reached on (571) 272-3811. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

43. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Christian LaForgia/
Primary Examiner, Art Unit 2439

clf